

REMARKS

In response to the previously issued Election/Restriction requirement mailed by the PTO on January 15, 2003 in the above identified Patent Application; applicant elected for examination the Group IV claims (claims 120-136), drawn to a boiler, classified in class 361, subclass 689.

The aforementioned election/restriction requirement was traversed and remains so.

During the course, however, of reviewing all pending claims, considering which claim set to elect, considering further the Examiner's claim groupings, etc., it was determined that the claims defined by the Examiner as the "Group II" claims should be cancelled from this application (without prejudice), in favor of being introduced in copending patent Application Serial Number 09/899,647 (Browning et al.), filed July 6, 2001, entitled "HARDENED VOYAGE DATA RECORDER".

More particularly, as correctly pointed out by the Examiner, claims 89-111 in the instant 09/899,646 application (the Examiner's Group II claims), are drawn to a "hardened voyage recorder", classified in class 174, subclass 52.1.

Applicant agrees and accordingly, on even date herewith, is introducing these claims, via a Preliminary Amendment, as new claims 47-69 in Application Serial Number 09/899,647, Browning et al.

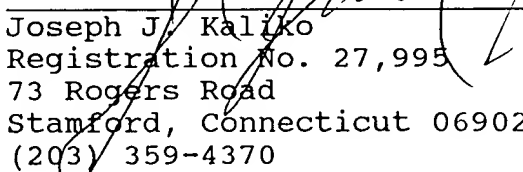
As will be submitted in the Preliminary Amendment filed in the 09/899,647 application, these claims should be entered prior to examination of that application and be part of the elected Group I claims (claims 1-41 in the 09/899,647 application), drawn, as correctly noted by the Examiner, to a hardened voyage data recorder.

No fees are due with the filing of this paper as no claims are being added to the subject application (09/899,646).

Further, this paper is being filed via Express Mail and via fax to Fax Number 703-746-4129.

Applicant respectfully requests consideration of the previously elected Group IV claims (claims 120-136) at this time; and solicits the allowance of these claims at an early date.

RESPECTFULLY SUBMITTED,



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Joseph J. Kaliko  
Registration No. 27,995  
73 Rogers Road  
Stamford, Connecticut 06902  
(203) 359-4370

L3-008  
February 19, 2003

COPY OF PRELIMINARY AMENDMENT FILED  
IN CO-PENDING PATENT APPLICATION 09/899,647

PRELIMINARY AMENDMENT TRANSMITTAL LETTER			Docket Number L3-007
Application Number 09/899,647	Filing Date 7/6/01	Examiner Carmelo B. Oliva	Group Art Unit 7723
Invention Title Hardened Voyage Data Recorder			

## TO THE COMMISSIONER OF PATENTS AND TRADEMARKS

Transmitted herewith is an amendment in the above - identified application.

- ☐ Small Entity status of this application has been established under 37 CFR 1.27 by a verified statement previously submitted.
- ☐ A verified statement to establish Small Entity status under 37 CFR 1.27 is enclosed.
- ☐ No additional fee is required.

☒ The fee has been calculated as shown below:

## CLAIMS AS AMENDED

	(1)		(2)	(3)		
	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT NUMBER EXTRA	RATE	FEE
TOTAL CLAIMS	64	minus	46	18	x \$ 18	324.00
INDEPENDENT CLAIMS	6	minus	10	-	x \$ 84	-
MULTIPLE DEPENDENT CLAIM ADDED					\$ 280	
					TOTAL	\$ 324.00
If applicant is a small entity under 37 CFR 1.9 and 1.27, then divide total fee by 2, and enter amount here.					SMALL ENTITY TOTAL	\$

\* If the entry in column 1 is less than the entry in column 2, write "0" in column 3

\*\* If the highest number previously paid for IN THIS SPACE is less than 20, enter "20".

\*\*\* If the highest number previously paid for IN THIS SPACE is less than 3, enter "3".

The "highest number previously paid for" (total or independent) is the highest number found in the appropriate box in column 1.

- ☐ Please charge Deposit Account Number \_\_\_\_\_ in the amount of \$ \_\_\_\_\_.  
A duplicate copy of this sheet is enclosed.

☒ A check in the amount of \$ 324.00 to cover the filing fee is enclosed.

- ☐ The Commissioner is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account Number \_\_\_\_\_.  
A duplicate copy of this sheet is enclosed.

☐ Any additional filing fees required under 37 CFR 1.16.☐ Any patent application processing fees under 37 CFR 1.17.

2/19/03

(Date)

Patent and Trademark Office - U.S. DEPARTMENT OF COMMERCE

IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE

In re the application of  
Browning et al.

Examiner: Carmelo B. Oliva  
Art Unit: 7723

Serial No.: 09/899,647

Date Filed: July 6, 2001

FOR: HARDENED VOYAGE DATA RECORDER

The Honorable Commissioner of  
Patents and Trademarks  
Washington, D. C. 20231

Sir:

PRELIMINARY AMENDMENT

Preliminary to examination please amend the above  
identified patent application as follows:

IN THE CLAIMS

Please add new claims 47-69 to the instant  
application, as follow:

Claim 47 (New Claim) A hardened voyage recorder  
for use on a marine vessel, comprising:

- (a) a first module including a mountable base mountable on the marine vessel and containing electronics for receiving data from data sensors located on the marine vessel and for writing data to a memory module;
- (b) a removable memory module removably coupled to said first module, said memory module including
  - (i) an outer housing including an inner cavity for containing a solid state memory;
  - (ii) a cover for said outer housing;
  - (iii) a thermal insulator located within said inner cavity defining at least a portion of a second interior cavity, with said solid state memory being located within said second inner cavity; and
  - (iv) a boiler located within said second interior cavity including a containment compartment for containing a thermal mass, a protective compartment within which said solid state memory is located and means for interconnecting said containment compartment and said protective compartment, wherein

said means for interconnecting, when open, provides a passageway between said containment compartment and said protective compartment.

Claim 48 (New Claim) The apparatus as set forth in claim 47 wherein solid state memory includes BGA memory.

Claim 49 (New Claim) The apparatus as set forth in claim 47 wherein said solid state memory is stacked memory.

Claim 50 (New Claim) The apparatus as set forth in claim 47 wherein said boiler includes a cover plate which covers said protective compartment, said cover plate defines a through hole spaced apart from its edge, and said solid state memory is coupled to a cable which extends through said through hole.

Claim 51 (New Claim) The apparatus as set forth in claim 50 wherein said through hole is substantially circular.

Claim 52 (New Claim) The apparatus as set forth in claim 50 wherein said cover plate is press fit to said boiler.



Claim 53 (New Claim) The apparatus as set forth in claim 47 wherein said thermal mass includes a phase change material (PCM).

Claim 54 (New Claim) The apparatus as set forth in claim 53 wherein said PCM utilizes the energy absorption from vaporization to absorb heat.

Claim 55 (New Claim) The apparatus as set forth in claim 53 wherein said PCM is water.

Claim 56 (New Claim) The apparatus as set forth in claim 55 wherein said water is contained in a dry material which inhibits the water from freezing or expanding.

Claim 57 (New Claim) The apparatus as set forth in claim 56 wherein said dry material comprises sponge, silica, polyacrylamide, calcium silicate or pottery clay.

Claim 58 (New Claim) The apparatus as set forth in claim 47 wherein said thermal mass is a dry powder formed by combining water and silica.

Claim 59 (New Claim) The apparatus as set forth in claim 47 wherein said thermal mass absorbs shock.

Claim 60 (New Claim) The apparatus as set forth in claim 59 wherein said thermal mass is a gel formed by combining water and polyacrylamide.

Claim 61 (New Claim) A boiler as set forth in claim 47 further comprising a fusible valve that opens at a predetermined temperature to allow said thermal mass to flow through said passageway.

Claim 62 (New Claim) A boiler as set forth in claim 61 wherein said fusible valve comprises at least one thermal vent plug which is released at a predetermined temperature.

Claim 63 (New Claim) A boiler as set forth in claim 62 wherein said thermal vent plug comprises wax, paraffin, a bismuth alloy or electrical solder.

Claim 64 (New Claim) The apparatus as set forth in claim 57 wherein said cover for said outer housing is coupled to said outer housing with a snap ring.

Claim 65 (New Claim) The apparatus as set forth in claim 64 wherein said cover for said outer housing is coupled to said outer housing with two snap rings.

Claim 66 (New Claim) The apparatus as set forth in claim 47 wherein said outer housing withstands a penetration of a 100mm 250kg projectile at three meters.

Claim 67 (New Claim) The apparatus as set forth in claim 47 wherein said outer housing will withstand a 50g's, 11 ms half sine shock.

Claim 68 (New Claim) The apparatus as set forth in claim 47 wherein said outer housing will withstand an immersion of 6,000 meters depth.

Claim 69 (New Claim) The apparatus as set forth in claim 47 wherein said solid state memory is protected from temperatures on the order of 260 degrees C for approximately ten hours.

REMARKS

Forty Six claims were originally submitted for examination in this application.

In response to an Election/Restriction Requirement communicated via telephone by the Examiner on February 5, 2003, applicant elected the Group I claims drawn, as defined by the Examiner, to a hardened voyage data recorder.

Claims 42-46, drawn to a process for fabricating a hardened voyage data recorder, were not elected. The Election/Restriction Requirement was responded to with traverse and remains so.

In co-pending application Serial Number 09/899,646, filed on July 6, 2001 on behalf of Gregory Purdom, entitled "Boiler For A Hardened Voyage Data Recorder" an Election/Restriction Requirement was also lodged.

During the course of reviewing all pending claims in both the 09/899,646 application and the instant 09/899,647 application, considering which claim sets to elect, considering further the Examiner's claim groupings, etc., it was determined that the claims defined by the Examiner as the "Group II" claims in the 09/899,646 application should be cancelled from that application (without prejudice), in favor of being introduced in this patent application (Serial Number 09/899,647).

More particularly, as correctly pointed out by the Examiner, claims 89-111 in the co-pending 09/899,646 application (the Examiner's Group II claims for that case), were drawn to a "hardened voyage recorder".

Applicant agrees and accordingly, on even date herewith, is cancelling the hardened voyage recorder orient claims (claims 89-111) from the 09/899,646 application (Via a Preliminary Amendment filed in that application); and introducing these claims, via this Preliminary Amendment, as new claims 47-69 in instant Application (Serial Number 09/899,647).

It is respectfully submitted that new claims 47-69 be entered prior to examination of the instant application as no new matter is being introduced thereby; and that these new claims be considered part of the elected Group I claims

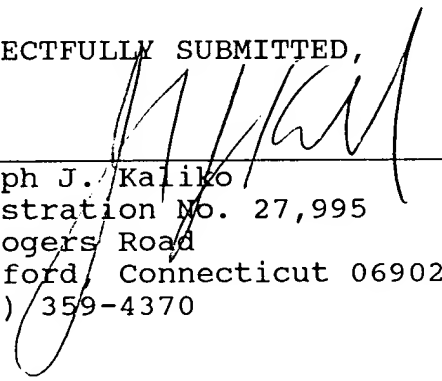
(previously elected claims 1-41), drawn, as correctly noted by the Examiner, to a hardened voyage data recorder.

As new claims are being introduced into this application, claim fees are due as indicated on the Amendment Transmittal letter accompanying this Preliminary Amendment. These fees are being paid herewith.

Further, this paper is being filed via Express Mail and via fax to Fax Number 703-746-4129; with payment for the additional claims accompanying the aforementioned Express Mail filing.

Applicant respectfully requests consideration of claims 1-41 and 47-69 now pending; and solicits the allowance of these claims at an early date.

RESPECTFULLY SUBMITTED,

  
\_\_\_\_\_  
Joseph J. Kaliko  
Registration No. 27,995  
73 Rogers Road  
Stamford, Connecticut 06902  
(203) 359-4370

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